

What is claimed is:

1. A routing processing device in a home bus system having a plurality of networks each provided with a unique ID, each of the networks having a plurality of appliances, each appliance being provided with an ID of a network to which the each appliance belongs, in which the networks are connected to one another by a router, via at least one appliance belonging to each of the networks,

wherein each of the appliances comprises at least a transmission part for transmitting, when the appliance transmits a message to another appliance not belonging to a network to which the appliance belongs, the message to a predetermined particular router on the network to which the appliance belongs, after having provided the message with an ID of a destination appliance and an ID of a network to which the destination appliance belongs, the particular router comprising:

a correspondence table part for showing a correspondence relationship between IDs of all the networks and IDs of the appliances belonging to each network, in the home bus system;

a connection correspondence table part for showing which networks are connected to each other via which appliance; and

a control part for forwarding, when received a message directed to another appliance on a network to which the particular router does not belong, the message to an appliance having a corresponding ID on a network to which the particular router is

connected, by referring to the correspondence table part and the connection correspondence table part.

2. A routing processing device in a home bus system having a plurality of networks each provided with a unique ID, each of the networks having a plurality of appliances, each appliance being provided with an ID of a network to which the each appliance belongs, in which the networks are connected to one another by a router, via at least one appliance belonging to each of the networks,

wherein each of the appliances comprises:

10 a query part for querying, when the appliance transmits a message to another appliance not belonging to a network to which the appliance belongs, a predetermined particular router for to which one of the appliances on the network to which the appliance belongs the message is to be transmitted; and

15 a transmission part for transmitting the message to one of the appliances on the network to which the appliance belongs, the one of the appliances having an ID corresponding to an answer to the query, the particular router comprising:

a correspondence table part for showing a correspondence relationship 20 between the IDs of all the networks and the IDs of the appliances belonging to each network;

a connection correspondence table part for showing which networks are connected to each other via which appliance; and

an ID notification part for notifying, when received a query from an

appliance for to which one of the appliances on a network to which the querying appliance belongs a message is to be transmitted so that the message is transmitted to a destination appliance on a network to which the querying appliance does not belong, the 5 querying appliance of an ID of a corresponding appliance, by referring to the correspondence table part and the connection correspondence table part.

3. A method of routing in a home bus system having a plurality of networks each provided with a unique ID, each of the networks having a 10 plurality of appliances, each appliance being provided with an ID of a network to which the each appliance belongs, in which the networks are connected to one another by a router, via at least one appliance belonging to each of the networks, the method comprising at least:

transmitting, when the appliance transmits a message to another 15 appliance not belonging to a network to which the appliance belongs, the message to a predetermined particular router on the network to which the appliance belongs, after having provided the message with an ID of a destination appliance and an ID of a network to which the destination appliance belongs, and

20 forwarding, when the particular router receives a message directed to another appliance on a network to which the particular router does not belong, the message to an appliance having a corresponding ID on a network to which the particular router is connected, by referring to a correspondence table part and a

connection correspondence table part, the correspondence table part showing a correspondence relationship between the IDs of all the networks and the IDs of the appliances belonging to each network, in the home bus system, the connection correspondence table part showing which networks are connected to each other via  
5 which appliance.

4. A method of routing in a home bus system having a plurality of networks each provided with a unique ID, each of the networks having a plurality of appliances, each appliance being provided with an ID of a  
10 network to which the each appliance belongs, in which the networks are connected to one another by a router, via at least one appliance belonging to each of the networks, the method comprising:

querying, when the appliance transmits a message to another appliance  
not belonging to a network to which the appliance belongs, a  
15 predetermined particular router for to which one of the appliances on the network to which the appliance belongs the message is to be transmitted;

transmitting the message to one of the appliances on the network to which the appliance belongs, the one of the appliances having an  
20 ID corresponding to an answer to the query; and

notifying, when the particular router receives a query from an appliance for to which one of the appliances on a network to which the querying appliance belongs a message is to be transmitted so that the message is transmitted to a destination appliance on a

network to which the querying appliance does not belong, the querying appliance of an ID of a corresponding appliance, by referring to a correspondence table part and a connection correspondence table part, the correspondence table part showing a correspondence relationship between the IDs of all the networks and the IDs of the appliances belonging to each network, the connection correspondence table part showing which networks are connected to each other via which appliance.

5. The routing processing device according to claim 1 wherein the each  
10 of the appliances is a sensor and attached to one of the particular router, a telephone, a television, and a video door-phone.

6. The routing processing device according to claim 2, wherein each of the appliances is a sensor and attached to one of the particular router, a telephone, a television, and a video door-phone.

15 7. The routing processing device according to claims 1 or 5, wherein the transmission part has means for transmitting a message to a particular router on a same network, the means using a communication medium receivable only by the particular router.

20 8. The routing processing device according to claims 2 or 6,  
wherein each of the appliances is an appliance capable of using a plurality of communication media for transmission, and  
wherein the ID notification part has a communication medium

notification part for notifying, when received the query, the querying appliance of one of the plurality of communication media, as an ID of a corresponding appliance.

9. The routing processing device according to claims 1 or 2,  
5 wherein the home bus system has means for controlling a total electric power consumed at a time, within a certain range,  
wherein each of the appliances is an appliance resulting in contributing  
to heating an inside of a room, such as a microwave oven, an  
electric iron, an electric vacuum cleaner, or an electric heater, and  
10 wherein a message from the appliance is directed to the means for  
controlling a total electric power and includes information on at  
least one of activation and deactivation of the appliance.

10. The routing processing device according to claims 1 or 2,  
wherein the home bus system means for controlling a total electric power consumed at a time, within a certain range,  
15 wherein each of the appliances is an appliance resulting in having no problem in practical application, such as a microwave oven, an electric iron, an electric vacuum cleaner, an electric heater, or an air conditioner, even if activation or actual activation of the  
20 appliance is delayed in the neighborhood of five seconds, and  
wherein a message from the appliance is directed to the means for controlling a total electric power and includes information on at least one of activation and deactivation of the appliance.